

**REMARKS**

Applicant appreciates the Examiner's thorough consideration provided the present application. Claims 1-20 are now present in the application. Amendments have been made to the specification. Claims 1, and 3-5 have been amended. Claims 9-20 have been added. Claims 1, 12, and 20 are independent. Reconsideration of this application, as amended, is respectfully requested.

**Drawing Objections**

The drawings have been objected to under 37 C.F.R. 1.83(a). Applicant has submitted a Fig. 7, which addresses the Examiner's requested changes. In particular, Fig. 7 shows a concentric inlet. Support for this argument can be found on page 4, line 19 of the specification, and in originally filed claim 4, for example. Applicant respectfully submits that no new matter is entered. Entry of the new Fig. 7 and withdrawal of the drawings objection is earnestly solicited.

In light of the foregoing amendments to the drawings and remarks, Applicant respectfully submits that this objection is obviated and/or rendered moot. Accordingly, reconsideration and withdrawal of the Examiner's objections are respectfully requested.

### **Specification**

The specification has been objected to due to the presence of grammatical errors and non-idiomatic language. A Substitute Specification is attached hereto. This statement is included in accordance with 37 C.F.R. § 1.125 to indicate that it is the undersigned's belief that no new matter has been included in the Substitute Specification and Abstract.

A comparison version of the specification is provided. This comparison document indicates all additions and deletions to the originally filed specification. Applicant respectfully submits that the Substitute Specification includes the same changes as are indicated in the comparison document which compares the originally filed specification to the amended specification or Substitute Specification.

### **Claim Suggestions**

The Examiner is thanked for his claim suggestions. The dependencies of claims 4 and 5 have been amended, but otherwise, those helpful suggestions have been followed.

**Claim Objections**

Claim 4 has been objected due to the lack of a period. Claim 4 has been amended to address the Examiner's requested correction. Accordingly, this objection has been obviated and/or rendered moot.

**Claim Rejections Under 35 U.S.C. §112**

Claims 1-8 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particular point out and distinctly claim the subject matter, which Applicant regards as the invention. This rejection is respectfully traversed.

As the Examiner will note, claim 1 has been amended to address the Examiner's requested changes. Accordingly, claims 1-8 are now definite and clear.

In light of the foregoing amendments to claim 1, Applicant respectfully submits that these rejections have been obviated and/or rendered moot. Reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, second paragraph, are therefore respectfully requested.

**Claim Rejections Under 35 U.S.C. § 102**

Claims 1-3 and 5-8 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Hashimoto, U.S. Publication

2004/0123978. Claims 1, 2, and 5-8 stand rejected under 35 U.S.C. § 102(b) as being anticipated by JP 55-69,799. Claims 1, 2 and 5-8 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Zenkner, US. Patent No. 3,824,028. Claims 1, 2 and 5-8 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Hopfensperger, US. Patent No. 5,813,834. These rejections are respectfully traversed.

In light of the foregoing amendments to the claims, Applicant respectfully submits that these rejections have been obviated and/or rendered moot. As the Examiner will note, independent claim 1 has been amended to recite a combination of elements including "an inlet having a non-circular circumference ... the inlet being in a plane and being non-symmetrical with respect to any axis lying in the plane". Thus, if one was to "fold" the inlet a lunging axis, it would be non-symmetric. Applicant respectfully submits that the combination of elements as set forth in amended independent claim 1 is not disclosed nor suggested by the references relied on by the Examiner.

Hashimoto discloses an air-applying device having two projections 50 on the edges inlet ports 42a and 42b, respectively. Hashimoto only discloses that both projections 50, which are shaped like an arc, protrude toward the center of rotation (i.e., point A in FIG. 7) of

the impeller 36. However, Hashimoto fails to disclose "the inlet being in a plane and being non-symmetrical with respect to any axis lying in the plane" as set forth in claim 1. Since Hashimoto fails to teach each and every limitation of independent claim 1, Applicant respectfully submits that amended independent claim 1 is not anticipated by Hashimoto.

JP 55-69,799 discloses a centrifugal ventilator having an intake opening 7 formed in an egg-type shape. However, JP 55-69,799 fails to disclose "the inlet being in a plane and being non-symmetrical with respect to any axis lying in the plane" as set forth in claim 1. Instead, the intake opening 7 in FIG. 4 is symmetrical with the axis lying in the plane in which the intake opening is located, wherein the axis passes through the middle of the arc having a radius  $R_s$ . Since JP 55-69,799 fails to teach each and every limitation of independent claim 1, Applicant respectfully submits that amended independent claim 1 is not anticipated by JP 55-69,799.

Zenkner discloses a radial blade fan having an inlet opening offset relative to the impeller by the amount of the displacement of the inlet axis from the axis 13 of the impeller, as shown in FIG. 11. However, Zenkner fails to disclose "an inlet having a non-circular circumference ... the

inlet being in a plane and being non-symmetrical with respect to any axis lying in the plane" as set forth in claim 1.

As shown in FIG. 11 of Zenkner, the inlet opening 11 is a circle and therefore is symmetric with any axis passing the center. Since Zenkner fails to teach each and every limitation of independent claim 1, Applicant respectfully submits that amended independent claim 1 is not anticipated by Zenkner.

Hopfensperger discloses a centrifugal fan having an inlet opening 11 radially offset relative to the inner circumference of the impeller 2, as shown in FIG. 6. However, Hopfensperger fails to disclose "an inlet having a non-circular circumference ... the inlet being in a plane and being non-symmetrical with respect to any axis lying in the plane" as set forth in claim 1. Similar to Zenkner, as shown in FIG. 6 of Hopfensperger, the inlet opening 11 is a circle and therefore is symmetric with any axis passing through the center. Since Hopfensperger fails to teach each and every limitation of independent claim 1, Applicant respectfully submits that amended independent claim 1 is not anticipated by Hopfensperger.

Claim 12

In addition, as the Examiner will note, new independent claim 12 has been added to recite a combination of elements including "the inlet covering maximally the blades at the first reference point and covering the blades minimally at a second reference point, the coverage of the blades by the inlet continuously decreasing from the first reference point to the second reference point in both a first direction and a second direction, the first direction being one of clockwise and counterclockwise, the second direction being opposite to the first direction". Applicant respectfully submits that the combination of elements as set forth in new independent claim 12 is not disclosed nor suggested by the references relied on by the Examiner.

Hashimoto fails to disclose the above combination of elements as set forth in claim 12. As shown in FIG. 7 of Hashimoto, the first reference point would be either one of two ending points of the projection 50, and the second reference point would be the middle point of the projection 50. For example, if the first reference point is the ending point of the projection at Z axis in FIG. 7, the coverage of the blades by the inlet will be kept unchanged for a while and then increase from the ending point to the middle point of the projection 50 in the counterclockwise direction; the

coverage also increases from the ending point to the middle point of the projection 50 in the clockwise direction. Therefore, the coverage of the blades by the inlet in Hashimoto does not continuously decrease from the first reference point (one ending point of the projection 50) to the second reference point (the middle point of the projection 50) in both the clockwise direction and counterclockwise direction. Since Hashimoto fails to teach each and every limitation of independent claim 12, Applicant respectfully submits that amended independent claim 12 is not anticipated by Hashimoto.

JP 55-69,799 also fails to disclose the above combination of elements as set forth in claim 12. As shown in FIG. 4 of JP 55-69,799, the first reference point would be either one of two ending points of the egg-type shape, and the second reference point would be the middle point of the egg-type shape. For example, if the first reference point is the ending point of the egg-type shape on the left side of the axis passing through the center of inlet opening 7, the coverage of the blades by the inlet will be kept unchanged for a while and then decrease from the ending point to the middle point of the projection 50 in the counterclockwise direction. Therefore, the coverage of the blades by the inlet in JP 55-69,799 does not continuously



decrease from the first reference point to the second reference point in both a first direction and a second direction. Since JP 55-69,799 fails to teach each and every limitation of independent claim 12, Applicant respectfully submits that amended independent claim 12 is not anticipated by JP 55-69,799.

Zenkner fails to disclose the above combination of elements as set forth in claim 12. As shown in FIG. 11 of Zenkner, the first reference point would be either the crossing point of the axis 12 and the inlet 11 or the crossing point of the inlet 11 and the inner rotor 52 in the fourth quarter, and the second reference point would be some point in the third quarter. For example, if the first reference point is the crossing point of the axis 12 and the inlet 11, the coverage of the blades by the inlet will be kept unchanged for a while (because the blades are entirely covered) and then decrease from the crossing point to the point in the third quarter in the clockwise direction. Therefore, the coverage of the blades by the inlet in Zenkner does not continuously decrease from the first reference point to the second reference point in both a first direction and a second direction. Since Zenkner fails to teach each and every limitation of independent claim 12,

Applicant respectfully submits that amended independent claim 12 is not anticipated by Zenkner.

Hopfensperger fails to disclose the above combination of elements as set forth in claim 12. As shown in FIG. 6 of Hopfensperger, the first reference point would be either the crossing point of the inlet 11 and the circle 10 in the second quarter or the crossing point of the inlet 11 and the circle 10 in the fourth quarter, and the second reference point would be some point in the third quarter. For example, if the first reference point is the crossing point in the second quarter, the coverage of the blades by the inlet will be kept unchanged for a while (because the blades are entirely covered) and then decrease from the crossing point to the point in the third quarter in the clockwise direction. Therefore, the coverage of the blades by the inlet in Hopfensperger does not continuously decrease from the first reference point to the second reference point in both a first direction and a second direction. Since Hopfensperger fails to teach each and every limitation of independent claim 12, Applicant respectfully submits that amended independent claim 12 is not anticipated by Hopfensperger.

**Claim 16**

Furthermore, new independent claim 16 has been added to recite a combination of elements including "the spiral circumference being with a first varying radius and a second varying radius, each being with respect to the axis, the first varying radius continuously increasing when measured from the first reference point in a first direction to a second reference point, the second varying radius continuously increasing when measured from the first reference point in a second direction to the second reference point". Applicant respectfully submits that the combination of elements as set forth in new independent claim 16 is not disclosed nor suggested by the references relied on by the Examiner.

Hashimoto fails to disclose the above combination of elements as set forth in claim 16. As shown in FIG. 7 of Hashimoto, for example, if the first reference point is the middle point of the projection 50 and the second reference point is the ending point of the projection at Z axis in FIG. 7, the first varying radius continuously increases when measured from the first reference point in the clockwise direction to a second reference point, but the second varying radius will continuously increase for a while and then be kept unchanged when measured from the first

reference point in the counterclockwise direction to the second reference point. Therefore, the second varying radius does not "continuously increase" when measured from the first reference point in a second direction to the second reference point". Since Hashimoto fails to teach each and every limitation of independent claim 16, Applicant respectfully submits that amended independent claim 16 is not anticipated by Hashimoto.

JP 55-69,799 fails to disclose the above combination of elements as set forth in claim 16. As shown in FIG. 4 of JP 55-69,799, for example, if the first reference point is the ending point of the egg-type shape on the left side of the axis passing through the center of inlet opening 7 and the second reference is the middle point of the egg-type shape, the first varying radius continuously increases when measured from the first reference point in the clockwise direction to a second reference point, but the second varying radius will be kept unchanged for a while and then increase when measured from the first reference point in the counterclockwise direction to the second reference point. Therefore, the second varying radius does not "continuously increase" when measured from the first reference point in a second direction to the second reference point". Since JP 55-69,799 fails to teach each and every limitation of

independent claim 16, Applicant respectfully submits that amended independent claim 16 is not anticipated by JP 55-69,799.

Both Zenkner and Hopfensperger fail to disclose the above combination of elements as set forth in claim 16. As shown in FIG. 11 of Zenkner and in FIG. 6 of Hopfensperger, the inlet 11 is circular rather than spiral, and has only one radius. Therefore, Zenkner fails to teach "the spiral circumference being with a first varying radius and a second varying radius...". Since Zenkner and Hopfensperger fail to teach each and every limitation of independent claim 16, Applicant respectfully submits that amended independent claim 13 is not anticipated by Zenkner nor Hopfensperger.

In addition, claims 2-11, 13-15 and 17-20 depend, either directly or indirectly, from independent claims 1, 12 and 16, respectively, and are therefore allowable based on their respective dependence from amended independent claim 1 and new independent claims 12 and 16.

In view of the above remarks, Applicant respectfully submits that claims 1-20 clearly define the present invention over the references relied on by the Examiner. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 102 are respectfully requested.

**Claim Rejections Under 35 U.S.C. § 103**

Claims 1, 2, 4, 7, and 8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Katsui, US. Patent No. 5,504,650 in view of JP 55-69,799. This rejection is respectfully traversed.

As indicated by the Examiner, Katsui fails to disclose the inlet having a shape started from a reference point with respect to the outlet. Katsui also fails to teach "an inlet having a non-circular circumference ... the inlet being in a plane and being non-symmetrical with respect to any axis lying in the plane" as set forth in amended claim 1 and the above combinations of elements as set forth in new independent claims 12 and 16.

With regard to the Examiner's reliance on JP 55-69,799, this reference has only been relied on for its teachings of the area of the blades covered by the inlet being from a maximum to a minimum gradually in a closed segment. As mentioned above, JP 55-69,799 fails to disclose the above combinations of elements as set forth in claims 1, 12, and 16.

Accordingly, none of those references individually or in combination teach or suggest the limitations of independent claims 1, 12, and 13. Therefore, Applicant respectfully submits that independent claims 1, 12, and 13

clearly defines over the teachings of the references relied on by the Examiner.

In addition, claims 2-11, and 14 depend, either directly or indirectly, from independent claims 1 and 13, respectively, and are therefore allowable based on their respective dependence from amended independent claim 1 and new independent claim 13, which are believed to be allowable.

In view of the above amendments and remarks, Applicant respectfully submits that claims 1-14 clearly define the present invention over the references relied on by the Examiner. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103 are respectfully requested.

#### **CONCLUSION**

Since the remaining patents cited by the Examiner have not been utilized to reject the claims, but rather to merely show the state of the art, no further comments are necessary with respect thereto.

It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

In the event there are any matters remaining in this application, the Examiner is invited to contact Joe McKinney Muncy, Registration No. 32,334 at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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Attachment: Marked-up copy of Specification  
Clean version of Specification